REMARKS

The applicant thanks the examiner for his review of the claims and prior art, and requests reconsideration of the pending claims in view of the below comments. Claims 16 and 17 have been cancelled, and claims 1, 8, 15 and 18 have been amended. Claims 1 and 8 have been amended to require a common node between the input switch and output switch, the common node coupled with and driven by the amplifier output. For support in the specification, see Figs. 1 and 2. Claim 15 has been amended to incorporate dependent claims 16 and 17, and further to require that the output switch in an off state interrupts the output feedback loop. For support in the specification, see Figs. 1 and 2. Claim 18 has been amended to correct a typo. No new matter has been added.

35 U.S.C. §112

The office action rejected claims 2, 10, and 18 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter the applicant regards as the invention. In particular, the office action states that it is not understood how "switches" can have "phase and duty cycles," as "phase" and "duty cycle" are aspects of signals, not of switches. In response, the definition of "phase" is defined as "a distinct period or stage in a process of change or development." (See The Oxford Encyclopedic English Dictionary, Third Edition, at page 1088, a copy of which is attached). The definition of "duty cycle" is "the proportion of time during which a component, device, or system is operated." (See whatis.com at http://searchsmb.techtarget.com/sDefinition/0,,sid44 _gci499861,00 .html, a copy of which is attached.) Thus, it is clear that a "switch" can be controlled to operate with same "phase" and "duty cycle," as required by claims 2, 10, and 18.

35 U.S.C. §102

Claims 15-20 stand rejected under 35 U.S.C. §102, second paragraph, as being anticipated by U.S. patent number 4,170,740 (Pernyeszi).

Amended claim 15 defines, in part, a multi-stage switched capacitor circuit having a first stage with an output feedback loop that includes an output switch. The output switch in an off state interrupts the output feedback loop. A second stage has an input switch, the input switch in

communication with the output feedback loop of the first stage. The circuit also has a means for applying a bootstrap voltage to the output switch and the input switch, the bootstrap voltage maintaining the input switch and the output switch in an on state during a specified time interval.

Pernyeszi fails to disclose a first stage having an output feedback loop that includes an output switch, the output switch in an off state interrupting the output feedback loop. Instead, the switches 48 and 49 in Pernyeszi interrupt output terminals 52 and 54 (see Fig. 1 of Pernyeszi). Pernyeszi does not teach or suggest that output terminals 52 or 54 are part of an output feedback loop of any stage. Accordingly, for this reason alone, claim 15 is allowable over the prior art. Dependent claims 18-20 are allowable for the same reason.

Additionally, applicant maintains that Pernyeszi does not disclose first and second stages. Instead, figure 1 generally shows output terminals 52 and 54 with no connections. More specifically, figure 1 of Pernyeszi shows a circuit 10 for delivering high voltage signals to an output having ports 52 and 54. The circuit 10 can be used in a system shown in figure 2, in which the circuit 10 can be substituted for switches S1-S6 (see column 4, line 67 to column 5, line 5). Clearly, two stages are not shown or suggested in Pernyeszi as being coupled with the output terminal 52 or 54, respectively. Accordingly, for this additional reason, claim 15 is patentable over the cited art. In a similar manner, dependent claims 18-20 also are allowable for the same reasons.

35 U.S.C. §103

Claims 1-3 and 6-14 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Hui et al. (U.S. Patent No. 5,808,502, hereinafter Hui) in view of Csapa (U.S. Patent Application 2003/0202497) or O'Neill (U.S. Patent No. 4,024,349).

As an initial matter, Csapa has a filing date of October 31, 2002 and claims priority from provisional application no. 60/375,873, filed on April 26, 2002. Hence, Csapa is not prior art to the present application, under any subsection of §102 and §103, because the present application claims was filed August 17, 2001 and claims priority from provisional patent application serial number 60/305,973, filed July 17, 2001, thus predating the filing date of Csapa. As such, the pending rejection of claims 1-3 and 6-14 as being obvious over Hui in view of Csapa has been overcome.

Claim 1 defines, in part, a multi-stage circuit having a first stage with an output switch, and a second stage with an input switch. A bootstrap module is in communication with both switches. The first stage has an amplifier with an amplifier output. A common node <u>between</u> the input switch and output switch is coupled with and driven by the amplifier output.

Hui discloses a first station (connected to A0) having an input switch 30L, and a second station (connected to B0) having an output switch 30R (see Hui at Fig. 9). However, Hui fails to disclose an amplifier output connected between the input switch 30L and output switch 30R. O'Neill discloses various amplifiers 315 and 322 in a quasi-resonant transfer conferencing circuit (see Fig. of O'Neill).

The combination of Hui and O'Neill fails to form applicant's invention. The office action states that based on O'Neill, it would have been obvious to use an amplifier to output buffer the signals of the stations in Hui connected to A0. However, this would couple an amplifier output to A0 (or B0) of Hui, but not to a common node <u>between</u> the input switch and output switch, as required by claim 1.

Accordingly, since the combination of Hui and O'Neill fails to teach or suggest applicant's invention, amended claim 1 is allowable over the combination of Hui and O'Neill. Claims 2, 3, 6 and 7 depend on and incorporate independent claim 1, and are allowable for the same reasons as discussed above with regard to claim 1, and are further allowable in view of the additional limitations set forth therein. Amended claim 8 also requires a common node between the input switch and output switch, the common node coupled with and driven by the amplifier output. Thus, claim 8 and dependent claims 9-14 and 29 are also allowable for the same reasons as discussed above with regard to amended claim 1, and are further allowable in view of the additional limitations set forth therein.

Applicant believes that no extension of time is required; however, this conditional petition is being made to provide for the possibility that the applicant has inadvertently overlooked the need for an extension of time. If any additional fees are required for the timely consideration of this application, please charge deposit account number 19-4972.

It is believed that the application is in condition for allowance. Consideration of the application and issuance of a notice of allowance are respectfully requested.

Respectfully submitted,

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02550/00111 359298.1

phalanger /fəˈlændʒə(r)/ n. an arboreal Australasian marsupial of the family Phalangeridae, including cuscuses and brush-tailed possums. (See also flying phalanger.) [F f. Gk phalaggion spider's web, f. the webbed toes of its hind feet]

phalanx /'fælæŋks/ n. (pl. phalanxes or phalanges /fəˈlændʒi:z/) 1 Gk Antiq a line of battle, esp. a body of Macedonian infantry drawn up in close order. 2 a set of people etc. forming a compact mass, or banded for a common purpose. 3 Anat. a bone of the finger or toe. 4 Bot. a bundle of stamens united by filaments. [Lf. Gk phalagx-ggos]

phalarope / fælə, rəup/ n. a small swimming sandpiper of the genus Phalaropus, with a straight bill and lobed feet, notable for its reversal of the sexual roles. [F f. mod.L Phalaropus, irreg. f. Gk phalaris coot + pous podos foot]

phalli pl. of PHALLUS.

phallic /'fælik/ adj. 1 of, relating to, or resembling a phallus. 2 Psychol. denoting the stage of male sexual development characterized by preoccupation with the genitals.

phallically adx [F phallique & Gk phallikos (as PHALLUS)]

phallocentric / fæləu sentrık/ adj. centred on the phallus or on male attitudes.

phallocentricity /-sen'trisiti/ n. phallocentrism /-'sentriz(ə)m/ n.

phallus /'fæləs/ n. (pl. phalli /-lai/ or phalluses) 1 the (esp. erect) penis. 2 an image of this as a symbol of generative power in nature. phallism n. phallicism /-li,siz(a)m/ n. [LL f. Gk phallos]

phanariot /fə'nærıət/ n. hist. a member of a class of Greek officials in Constantinople under the Ottoman Empire. [mod.Gk phanariôtes f. Phanar the part of the city where they lived f. Gk phanarion lighthouse (on the Golden Horn)]

phanerogam /'fænərə,gæm/ n. Bot. a plant that has stamens and fænərə'gæmik/ adj. phanerogamous /-'rogəməs/ adj. [F phanerogame f. Gk phaneros visible + gamos marriage]

phantasize archaic var. of FANTASIZE.

phantasm /'fæntæz(ə)m/ n. 1 an illusion, a phantom. 2 (usu. foll. by of) an illusory likeness. 3 a supposed vision of an absent (living or dead) person. phantasmal /fæn'tæzm(ə)l/ adj. phantasmic adj. [ME f. OF fantasme f. I. f. Gk phantasma f. phantazo make visible f. phaino showl

phantasmagoria / fæntæzmə go:rrə/ n. 1 a shifting series of real or imaginary figures as seen in a dream. 2 an optical device for rapidly varying the size of images on a screen. □ phantasmagoric /-'gorɪk/ adj. phantasmagorical adj. [prob. f. F fantasmagorie (as PHANTASM + fanciful ending)]

phantast var. of FANTAST.

phantasy archaic var. of FANTASY.

phantom /'fæntəm/ n. & adj. • n. 1 a ghost; an apparition; a spectre. 2 a form without substance or reality; a mental illusion. 3 Med. a model of the whole or part of the body used to practise or demonstrate operative or therapeutic methods. • adj. merely apparent; illusory. phantom circuit an arrangement of telegraph or other electrical wires equivalent to an extra circuit. phantom limb a continuing sensation of the presence of a limb which has been amputated. phantom pregnancy Med. the symptoms of pregnancy in a person not actually pregnant. [ME f. OF fantosme ult. f. Gk phantasma (as

Pharaoh /'feərəu/ n. 1 the ruler of ancient Egypt. 2 the title of this ruler.

Pharaoh's ant a small reddish ant, Monomorium pharaonis, native to warm regions and a pest of heated buildings elsewhere. Pharaoh's serpent an indoor firework burning and uncoiling in serpentine form. | Pharaonic / feorer onik, feo ron-/ adj. [OE f. eccl.L. Pharao f. Gk Pharao f. Heb. par oh f. Egypt. pr. o great house]

Pharisee / færr.si./ n. 1 a member of an ancient Jewish sect. (See note below) 2 a person of the spirit or disposition attributed to the Pharisees in the New Testament; a self-righteous person; a hypocrite.

| Pharisaism /-sel, zz(a)m/n. Pharisaic / færi 'selk/adj. Pharisaicai adj. [OE fariseus & OF pharise f. eccl.L pharisaeus f. Gk Pharisaios f. Aram. p'rišayyû pl. f. Heb. parûš separated]

The Pharisees are mentioned only by Josephus and in the New Testament, where they are presented as having pretensions to superior sanctity. Unlike the Sadducees, who tried to apply Mosaic law strictly, the Pharisees allowed some freedom of interpretation. Although in the Gospels they are represented as the chief opponents of Christ they seem to have been less hostile than the Sadducees to

the nascent Church, with which they shared belief in the Resurrection.

pharmaceutical / fo:ma'sju:tik(a)l/ adj. & n. • adj. 1 of or engaged in pharmacy. 2 of the use or sale of medicinal drugs. • n. a medicinal drug. D pharmaceutically adv. pharmaceutics n. [1] pharmaceuticus f. Gk pharmakeutikos f. pharmakeutes druggist f. pharmakon drug]

pharmacist /'fo:massst/n. a person qualified to prepare and dispense drugs.

pharmacognosy / fa:məˈkɒgnəsi/ n. the science of drugs, esp. relating to medicinal products in their natural or unprepared state [Gk pharmakon drug + gnősis knowledge]

pharmacology / fa:məˈkɒlədʒi/ n. the branch of medicine that deals with the uses, effects, and modes of action of drug.

pharmacologist n. pharmacological /-kə'lɔdʒɪk(ə)l/ ad pharmacologically adv. [mod.L pharmacologia f. Gk pharmakon drug] pharmacopoeia / fa:məkə pi:ə/ n. 1 a book, esp. one officially published, containing a list of drugs with directions for use. 2 a stock of drugs.

pharmacopoeial adj. [mod.L f. Gk pharmakopoiia f. pharmakopoios drug-maker (as PHARMACOLOGY + poios making)

pharmacy /'fa:məsi/ n. (pl. -les) 1 the preparation and the (esp. medicinal) dispensing of drugs. 2 a pharmacist's shop, a dispensary [ME f. OF farmacie f. med L pharmacia f. Gk pharmakeia practice of the druggist f. pharmakeus f. pharmakon drug]

Pharos /'feoros/ a lighthouse, one of the earliest known, erected by Ptolemy II (308-246 BC) in c.280 BC on the island of Pharos, off the coast of Alexandria. Often considered one of the Seven Wonders of the World, it is said to have been over 130 m (440 ft) high and to have been visible from 67 km (42 miles) away. It was finally destroyed in 1375.

pharos /'fearos/ n. a lighthouse or a beacon to guide sailors. [Lf. Gk Pharos Pharosl

pharyngo-/fə'rɪŋgəu/ comb. form denoting the pharynx.

pharyngotomy / færin 'gotəmi/ n. (pl. -ies) Med. an incision into the

pharynx /'færinks/ n. (pl. pharynges /fəˈrɪndʒiːz/) 1 Anat. & Zool a membrane-lined cavity behind the mouth and nose, connecting them to the oesophagus. 2 Zool. (in invertebrates) part of the alimentary canal immediately posterior to the mouth cavity.

pharyngal /fəˈrɪŋg(ə)l/ adj. pharyngeal /ˌfærmˈdʒi:əl/ adj. pharyngitis /-ˈdʒatɪs/ n. [mod.L f. Gk pharugx -ggos]

phase /ferz/ n. & v. • n. 1 a distinct period or stage in a process of change or development. 2 each of the aspects of the moon or a planet, according to the amount of its illumination, esp. the new moon, the first quarter, the last quarter, and the full moon. 3 Physics a stage in a periodically recurring sequence, esp. of alternating electric current or light vibrations. 4 a difficult or unhappy period, esp. in adolescence (just going through a phase). 5 a genetic or seasonal variety of an animal's coloration etc. 6 Chem. a distinct and homogeneous form of matter separated by its surface from other forms. • v.tr. carry out (a programme etc.) in phases or stages.

in phase having the same phase at the same time. out of phase not in phase. phase in (or out) bring gradually into (or out of) use. phase rule Chem. a rule relating numbers of phases, constituents, and degrees of freedom. three phase (of an electric generator, motor, etc.) designed to supply a use simultaneously three separate alternating currents of the same voltage, but with phases differing by a third of a period.

phasic a [F phase & f. earlier phasis f. Gk phasis appearance f. phaino phan-show

Phasmida / fæzmidə/ n.pl. Zool. an order of insects comprising the stick insects and leaf insects, which have very long bodies that long like twigs or leaves.

phasmid n. & adj. [mod.L f. Gk phasma spectre] phatic / fætik/ adj. (of speech etc.) used to convey general sociability rather than to communicate a specific meaning, e.g. 'nice morning isn't it?' [Gk phatos spoken f. phēmi phan-speak]

Ph.D. abbr. Doctor of Philosophy. [L philosophiae doctor]

pheasant /'fez(a)nt/ n. a large long-tailed game bird of the family Phasianidae, orig, from Asia; esp. the common Phasianus coldina pheasantry n. (pl. -les). [ME f. AF fesaunt f. OF faisan f. L phasiants Gk phasianos (bird) of the river Phasis in Asia Minor]

Pheidippides /far'dipi,di:z/ (5th century BC), Athenian messeng Phoidippides /fai'drpi,di:z/ (5th century BC), Athenian messeur didias / fidi,as, 'fai'dras, 'fai'd He was sent to Sparta to ask for help after the rersian half / 11d1,æs, 'far Marathon in 490 and is said to have covered the 250 km (150 miles) he was appointed two days on foot.

phenacetin /fi næsttin/ n. an acetyl derivative of phenol used to u^{n} fever etc. [PHENO- + ACETYL + -IN]

phencyclidi from piperidi: drug. [PHENOpheno-/'fi:nə 2 showing (ph for illuminatic phenobarbit a narcotic and phenocryst porphyritic roc phenol /'fi:nol formula: C₆H₅C antiseptic and derivative of ar phénole f. phène I phenolphthal used in solution It is colourless 1 [PHENOL + phtha phenomena pl. phenomenal / 2 extraordinar perceptible only phenomenally phenomenalis knowledge abou to the senses; th knowledge.

ph

phenomenolog phenomena as philosophical m consciousness and Edmund Husserl and other exister phenomenologi phenomenon /i occurrence that aj in question. 2 a n person's perceptic phainomenon neut. phenotype /ˈfiːn; m individual or gr with its envire

phenotypical adj phenyl/'fi:naɪl, 'fe: by removal of a hyc ^{phenyl}alanine /, widely distributed i [PHENYL + ALANINE] ^{phen}yiketonuria inability to metabo handicap if untreat pheromone /'fera released by an anim the same species. 🗆 🛙 HORMONE

Phew /fju:/ int. an ^{aton}ishment, or dis phi/fai/ n. the twent **hiai** /ˈfaɪəi/ n. a sma kle f. L phiola phiala 1 ^{hi} Beta Kappa ∕, laternity, an honora and occasionally gra utial letters of its Gr te guide to life'. 2 a the Acropolis in duded a colossal go ^{lathenon} (c.438), wh:

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Duty cycle is the proportion of time during which a component, device, or system is operated. The duty cycle can be expressed as a ratio or as a percentage. Suppose a disk drive operates for 1 second, then is shut off for 99 seconds, then is run for 1 second again, and so on. The drive runs for one out of 100 seconds, or 1/100 of the time, and its duty cycle is therefore 1/100, or 1 percent.

The more a circuit, machine or component is used, the sooner it will wear out. Therefore, the higher the duty cycle, the shorter the useful life, all other things being equal. If the above-mentioned disk drive has a life expectancy of 1,000,000 hours based on a 1 percent duty cycle, that same device's expectancy would probably be about 500,000 hours based on a duty cycle of 2 percent, and 2,000,000 hours based on a duty cycle of 0.5 percent.

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